Economies of Large Wind Plants in eastern Colorado

April, 2002

FPL Energy

FPL Group

Revenues: about 8.4b
Assets: about 15b

Headquartered in Juno Beach, Florida

FPL serves over 7.5 million people in Florida, with over 20,000 MW of generating capacity from natural gas, oil, nuclear and coal

FPL Energy serves customers in 16+ states , with over 9,500 MW of generating capacity from hydro, wind, solar, coal and natural gas

Primary subsidiaries :

Florida Power & Light and FPL Energy

Largest owner/operator of wind in U.S. over 1, 800MW in operation-
We added 845 mw's in 2001 or 50% of the market… much more now planned.

Large scale wind generation for utilities

FPL Energy: *Strengths*

CREDITWORTY

On balance sheet financing - one of the strongest utilities in nation… capital risk is FPL E's

FPL Group Board is comfortable with technology and risk associated ...

Currently Wind is only 15% larger investment portfolio…

Buys equipment and services in large lots -use of multiple OEM vendors: GE*, Vestas, Bonus, and Micon - lowers price...

Kansas

OPERATIONAL EXCELLENCE

Largest owner operator of wind plants in US... Over 6000 machines in service… EAF for '01 was 98.5% ...

FPL fossil units exceed 95% EAF.

FPL nuclear units exceed 94% EAF.

Wind Plant Economies of Scale

Scale + wind resource + bulk purchase + on balance sheet finance+ experience + long term firm contract with forward looking utility (s) = low price

- **Reduced equipment costs**
- **Aggressive design**
- **Application engineering**
- **Fully staffed O & M**
- **200 mw wind plant would yield prices in the $20's !**

Wind in a Utility Portfolio

Wind vs. Other New Generation Facilities

FPL's Martin, 3200+ mw

- Often Lowest Cost Option - *will be in Colorado*
- Blends into Large System managed with coal, nuclear and gas
- Risk Management -Hedge Against Rising Fuel Costs as it adds fuel diversity
- Easier to Permit & Construct - fast delivery
- Wind is Predictable not Controllable
- Interconnect where capacity and reliability are good
- Wind Energy is Utility-Grade quality energy

FPL Energy's
Gray County, Kansas,
Wind Energy Facility

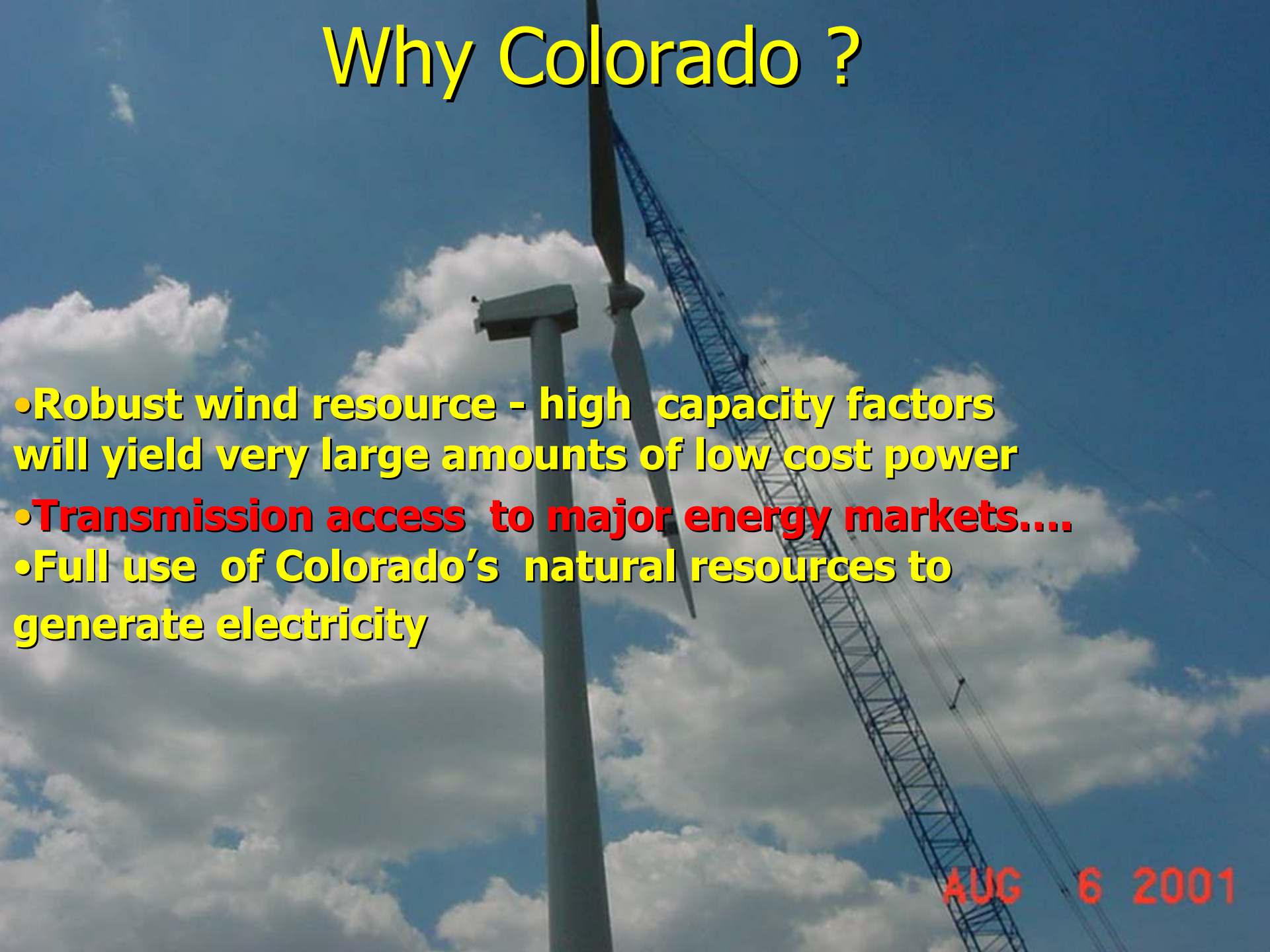
Energy sold without mandate to **UtiliCorp**

- **110 MW Wind Energy Generation Facility**
- **Excellent hedge against natural gas prices**
- **Blends into existing generation portfolio**
- **Ramp back more expensive generation units**

$$ Bottom Line $$

Wind energy can be more economical compared to existing gas fired generation and clearly new fossil units...

Why Colorado ?



- **Robust wind resource - high capacity factors will yield very large amounts of low cost power**
- **Transmission access to major energy markets….**
- **Full use of Colorado's natural resources to generate electricity**

Benefits to Colorado 3E's *Economy, environment and energy*

1. Economic Benefits - less than 3 cents per kwh

Colorado farmers - new cash crop
Colorado energy export - with 'green attributes'
Colorado rural business opportunities
Colorado JOBS - good work ethic in rural Colorado

2. Environmental Benefits

zero air pollutants
zero water consumption
zero solid waste
zero incompatible land use
zero smell

3. Energy Benefits

enough utility grade electricity to economically power thousands of Colorado homes and industries Produced in Colorado - ***exceptional value as hedge against forward fuel prices***

Economic Benefits to Local Community

Full time good paying Jobs 20k -70 k, with benefits, Construction Jobs, Tax revenues, local financial contributions, Tourism, Education, Annual easement payments to landowners. Use of local contractors, Use of local suppliers and services:

- abstract, surveys & legal
- lumber & fuel
- concrete & rock
- heavy equipment
- food & lodging
- and much, much, more….

This wind farm observation area located near Clear Lake, Iowa, was built to deal with the large number of unexpected visitors and invited guest. Similar one erected in Gray County Kansas.